Patent Application of Roland L. Fernandez
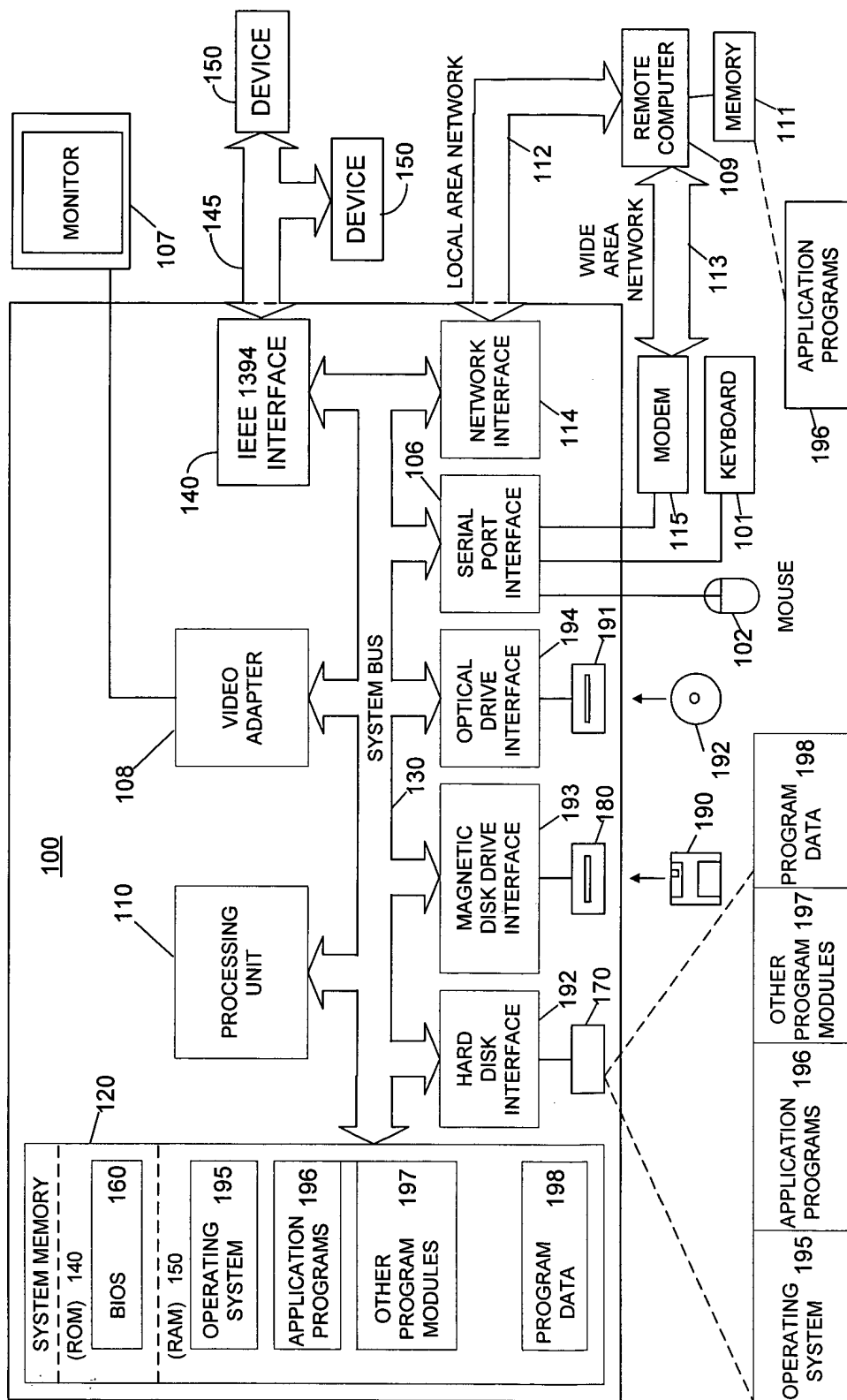Title: Extensible Schema for Defining the
Visual Appearance of Computer System
Components
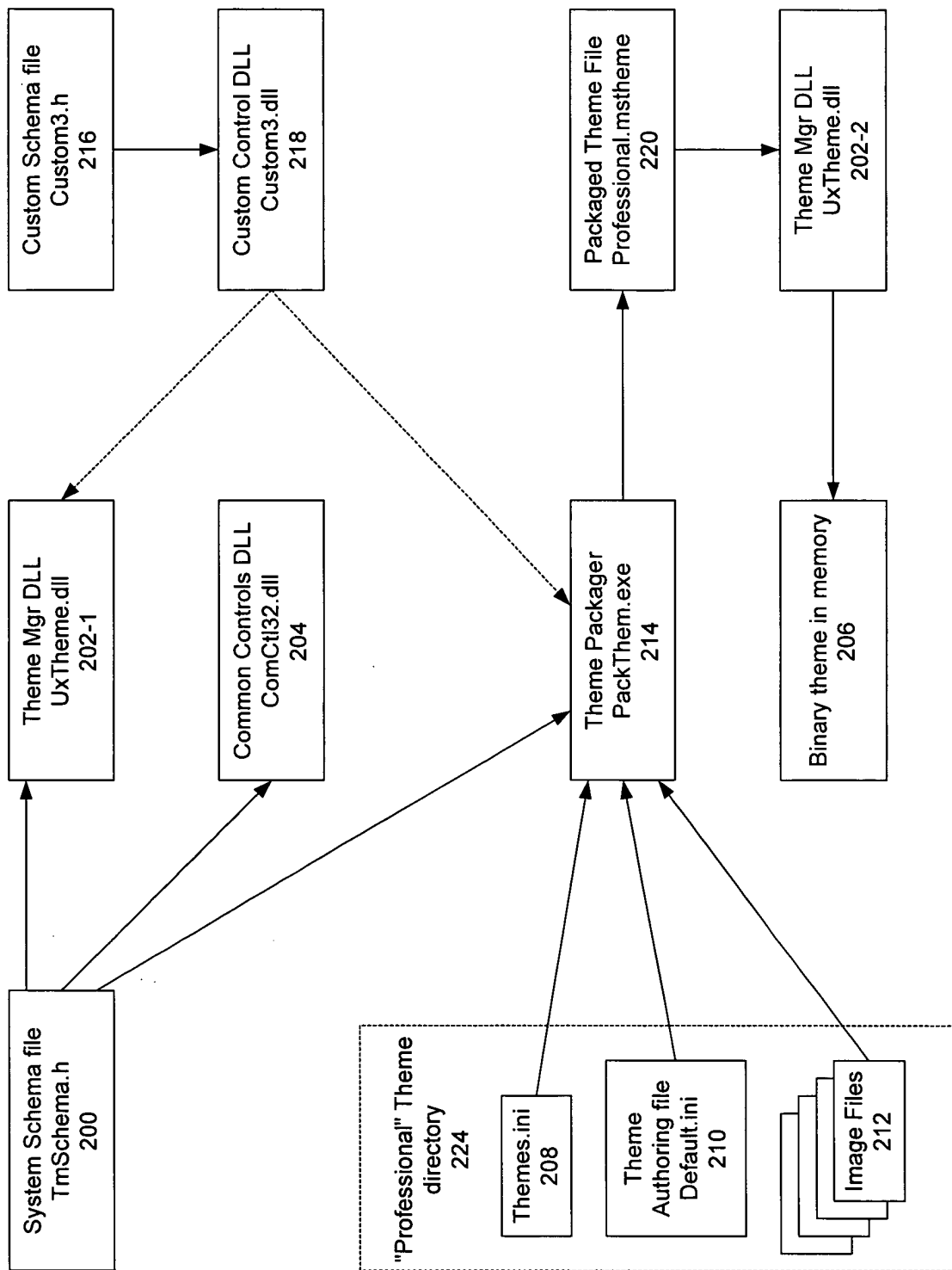Application No. 09/825,518
Attorney Docket No. 03797.00025

FIG. 1

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Custom Schema file
Custom3.h
216

Custom Control DLL
Custom3.dll
218

Packaged Theme File
Professional.mstheme
220

Theme Mgr DLL
UxTheme.dll
202-2

Theme Mgr DLL
UxTheme.dll
202-1

Common Controls DLL
ComCtl32.dll
204

Theme Packager
PackThem.exe
214

Binary theme in memory
206

System Schema file
TmSchema.h
200

"Professional" Theme
directory
224

Themes.ini
208

Theme
Authoring file
Default.ini
210

Image Files
212
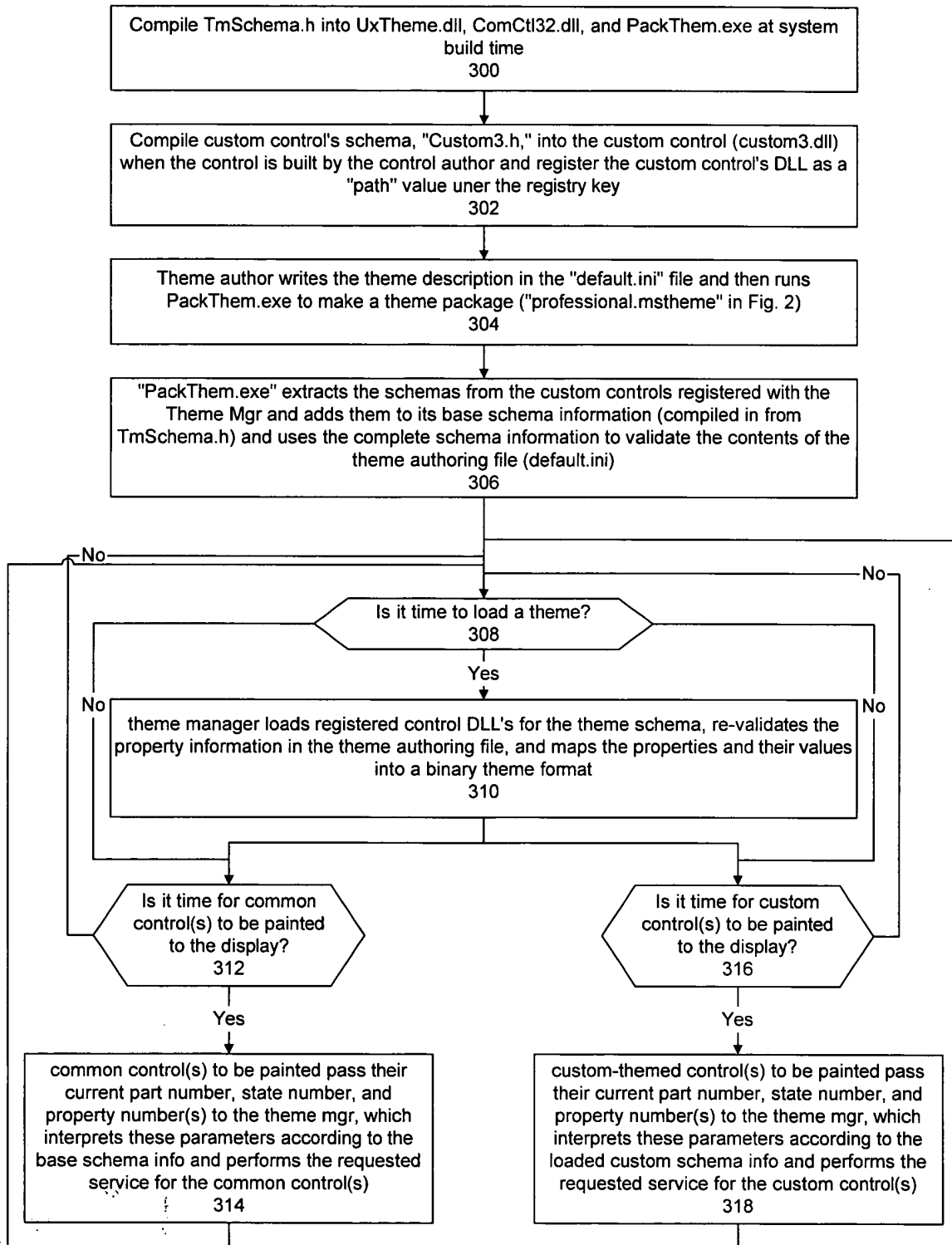
FIG. 2

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Compile TmSchema.h into UxTheme.dll, ComCtl32.dll, and PackThem.exe at system build time
300

Compile custom control's schema, "Custom3.h," into the custom control (custom3.dll) when the control is built by the control author and register the custom control's DLL as a "path" value uner the registry key
302

Theme author writes the theme description in the "default.ini" file and then runs PackThem.exe to make a theme package ("professional.mstheme" in Fig. 2)
304

"PackThem.exe" extracts the schemas from the custom controls registered with the Theme Mgr and adds them to its base schema information (compiled in from TmSchema.h) and uses the complete schema information to validate the contents of the theme authoring file (default.ini)
306

No —

No —

Is it time to load a theme?
308

Yes

No

No

theme manager loads registered control DLL's for the theme schema, re-validates the property information in the theme authoring file, and maps the properties and their values into a binary theme format
310

Is it time for common control(s) to be painted to the display?
312

Is it time for custom control(s) to be painted to the display?
316

Yes

Yes

common control(s) to be painted pass their current part number, state number, and property number(s) to the theme mgr, which interprets these parameters according to the base schema info and performs the requested service for the common control(s)
314

custom-themed control(s) to be painted pass their current part number, state number, and property number(s) to the theme mgr, which interprets these parameters according to the loaded custom schema info and performs the requested service for the custom control(s)
318

FIG. 3

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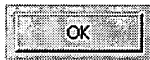Application No. 09/825,518
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OK

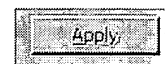FIG. 4

Cancel

FIG. 5

OK

FIG. 6

Apply

FIG. 7

Cancel

FIG. 8